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CLINICS.

CLINICAL LECTURE.

On Tuberculosis, and the Evidences of the Deposit or Formation of Tubercle in the Child. Delivered at the Hospital for sick children. By WILLIAM JENNER, M. D, Physician to the Hospital, &c. &c.

GENTLEMEN: In my last lecture[1] I described the symptoms of acute tuberculization. I have to-day to speak of chronic tuberculization.

With reference to the general symptoms of the chronic forms of tuberculization I need now only remark that no line of demarcation can be drawn between them and those of the insidious acute form I described in my previous lecture; but the symptoms are less severe, sometimes even so trifling as to escape notice, and they are diffused over a longer time. Before considering the evidences which indicate the tuberculization of special parts, I desire to express what seem to me to be two laws in regard of the etiology of local tuberculization, viz: that activity of organic life is favourable to tuberculization, and that afflux of blood, active congestion of an organ or tissue in one who is the subject of tuberculosis, may determine the tuberculization of that organ or tissue. The truth of these rules is daily manifested, and the practical consequences in reference to prophylaxis and treatment which flow from them are most important.

There is a point of much interest which must here suggest itself to the pathologist who limits his attention to no one period of life, viz: the striking general contrast which exists in these respects between cancer and tubercle. Organs which are yet imperfectly developed, but which are on the way to perfection, and organs which are performing their functions with full vigour, are prone to tuberculize. The periods of growth and

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of active life are the periods most favourable to the formation of tubercle. Organs which have passed perfection, or which have just ceased to perform their fuctions, are in the state most prone to cancer. The period of languid organic life, or of incipient decay, local and general, is the period favourable to the development of cancer.

Cutaneous and Subcutaneous Tubercle.—The majority of writers have either failed to notice, or have passed by as of little importance, the subject of cutaneous and subcutaneous deposit of tubercle. But it is of importance to detect tubercle in these situations, less for itself than because tubercle formed here is evidence of a profound constitutional taint. Tubercles in the skin and subcutaneous tissue are often associated with, or followed by, tuberculization of bone and its consequences.

Cutaneous and subcutaneous tubercles have often been mistaken for syphilitic, and now and then for glandular swellings. In the skin and cellular tissue beneath I have seen gray and yellow tubercles—crude and softened tubercle.

The first thing observed is a hard, indolent, painless mass, usually in the subcutaneous cellular tissue about the size of a pea; it may be as big as a small nut. The skin over it is natural in colour and temperature. The little tumour is free from adhesions—it can be moved about in the cellular tissue and the skin can be moved over it. After a time the mass adheres to the skin—the skin becomes discoloured, assumes a purplish red tint, and gives way, and the softened tubercle mixed with pus is evacuated. Less commonly the disease begins in the substance of the skin itself. If all the tubercle have softened before the skin gives way, the whole may be at once evacuated and the part heal, but if it have not all softened, or if fresh tubercle be deposited around, then a small aperture remains, from which every now and then a discharge occurs. The margin and floor of such an ulcer is hard in proportion to the amount of tubercle in the skin and subcutaneous tissue. Deep cicatrices commonly follow on the healing of these tubercular ulcers. They are often called scrofulous. Usually there are not more than four or five collections of cutaneous and subcutaneous tubercle present at the same time, now and then there is one only, and now and then there are a dozen or more. In several of these cases I have seen the bones of the hand become diseased (a model taken from a case of this kind is on the table), and in one case some of the cervical vertebræ suffered. It is in early childhood especially that tubercles are formed in the skin and subcutaneous tissue. I have seen them in a child of eight months old, and in a girl of fifteen; they are most common, I think, between the ages of ten and thirty months. From the evidence they afford of profound diathetic disease, the prognosis in cutaneous and subcutaneous tubercles is always grave.

Tubercles in the Lymphatic Glands.—As activity of functions of a part *disposes to* the formation of tubercle in the same part, and as undue afflux of blood to a part *determines* the formation of tubercle, the lymphatic glands in the child are more often than any other organ[1] the seat of tubercle; for in the child the lymphatic glands are in a state of functional activity, and become, from the least irritation, the seat of active congestion.

For the purpose of facilitating description, we may divide the lymphatic glands into two sets, viz., those which are seated more or less directly under the skin, and those which are seated in the chest and abdomen. But it must not be forgotten that, in reference to the local state of the glands, to the predisposing cause, and to the essential points of the determining cause of the deposit or formation of tubercle, the two sets of glands are identical.

In order to give a clear idea of the characters of the subcutaneous glands when the seat of tubercle, I will briefly recapitulate the pathological causes of enlarged glands, and the mode of distinguishing glands enlarged from different pathological conditions from each other.

1*st.* The most healthy child who has impetigo of the hairy scalp—*i. e.* suppurative inflammation of the hair-follicles—will be certain to have enlargement of the glands to which the lymphatics from the inflamed follicles lead. The enlargement of the glands under these circumstances is probably the consequence of the passage into the gland of some irritating substance brought by the lymphatics from the inflamed follicle to the gland. The enlargement of the gland is the result of an excess of blood

[1] The lymphatic glands are one organ when viewed with reference to their susceptibility to diseased actions.

in it, the effusion of serosity, and the exudation of more or less lymph into it. If the source of the irritant, viz., the inflammation of the hair-follicle, be quickly cured, the lymphatic glands quickly resume their normal size; if the cure be long delayed, then the lymphatic gland remains permanently enlarged; if the primary mischief, the scalp disease, be severe, and the disease neglected, then suppuration of the lymphatic gland may be the consequence. If several glands be secondarily affected, then the glands nearest to the source of the irritant are first and most severely inflamed. I have illustrated what I desire to impress on you by reference to what takes place in suppurative inflammation of the hair-follicles; but the same consequence follows in the lymphatic glands whenever the *substance* of the true skin is inflamed. Primary inflammation of a lymphatic gland is in a child a rare disease; the cases I have seen might be counted by units. Inflammation of lymphatic glands secondary to distant mischief is one of the most common of diseases; the cases I have seen might be counted by thousands.

As to the diagnosis of glands enlarged from this cause:—

(*a*). The enlargement is limited to one set of glands; for example, in the case I have supposed, impetigo of the scalp, to the glands of the neck, and often to those of one part of the neck, as to those behind the sterno-cleido-mastoideus, when the occiput alone is the seat of the impetigo, or to those under the symphysis menti, when the impetigo is limited to the chin.

(*b*). In the earlier stage and in the severer form, the glands are soft and tender, and their outline not very sharply defined.

(*c*). The source of irritation may be found at the spot from whence the lymphatics leading to the gland arise.

(*d*). In the chronic stage, the nature of the enlargement is to be inferred, and only inferred, from the small number affected, their small size, their hardness, their moderate movability, their indolence, and duration without alteration, and now and then by the history. Lymphatic glands chronically enlarged, from the pressure of unabsorbed lymph in their substance, rarely, if ever, inflame again, and consequently, manifest no tendency to suppuration.

2*d*. I have spoken of what takes place when a healthy child is the subject of inflammation, and especially suppurative inflammation, of the true cutis; but if the child, instead of being healthy, be strumous, then an amount of inflammation of the skin which would cause only the most trifling active congestion of the lymphatic glands to which the lymphathics of the inflamed part lead, would cause very great enlargement of the glands, and even suppurative inflammation.

But in the strumous child the lymphatic glands are generally more perceptible to touch, somewhat larger than are those of the healthy child. At the same time they are not hard, nor very sharply defined, nor particularly movable, as when the seat of albuminoid infiltration. The whole of the glands are pretty equally affected. The enlargement is not limited to one set, but those of the neck, axillæ, groin, etc, are all in the condition described.

3*d*. When the glands are the seat of albuminoid disease, they are very hard, sharply defined, and movable. At the same time, though larger than natural, they never attain a really large size, are singularly indisposed to inflammation, and especially indisposed to suppurative inflammation. All the lymphatic glands are affected, and as a rule, pretty equally. In the neck, axillæ, and groins, we feel under the skin deep and superficial glands, like shots and peas.

4*th*. For the so-called hypertrophy of the lymphatic glands in leucocythemia the blood affords the diagnostic sign.

5*th*. The lymphatic glands of a child the subject of tuberculosis are not more perceptible to the touch (unless they themselves be the seat of some localized disease), than are the glands of a healthy child. But children the subject of tuberculosis are more disposed than are healthy, though less so than rickety children, to suffer from albuminoid infiltration of the lymphatic glands. So that a child being the subject of tuberculosis, we may find its lymphatic glands hard, movable, and presenting the characters I just now described as evidencing the existence of this lesion.

Uninflamed lymphatic glands in which crude tubercles are present, are large, hard, irregular in form, oval or round, but usually more or less uneven or nodular on the surface. It is rare for a single gland only to be diseased, usually several of the same set of glands suffer, and very commonly the corresponding set of glands on the two sides of

the body; thus the chain of glands down the neck on both sides, or the glands in both groins. The lymphatic glands of the neck most commonly suffer, then those of the axillæ, and then those of the groins. While the glands on the two sides so commonly suffer at the same time, it is rare for them to suffer in an equal degree. There is no symmetry in the lesions, and in the same set or chain of glands we find some much more extensively affected than others, and supposing it to be the glands of the neck which are so diseased, there is no order in the degree of disease, that is to say, one or more glands in the uppermost part of the chain may be greatly diseased, then several scarcely at all, and then near the lower part of the chain one or more may be greatly diseased.

Sometimes there is a large mass, evidently made up of several enlarged glands, intimately united by condensed and thickened cellular tissue. We can only make out an imperfect division between the separate glands. The skin over the glands, while the tubercle is crude and the glands uninflamed, *i. e.*, in the state in which I have been describing them, is colourless, and not adherent to the mass. The part is free from pain and tenderness. In this stage of tuberculization of the exterior lymphatic glands, the diagnosis rests practically on their large size, and on the length of time they remain unchanged. I was about also to say, and on their chronic development, but in the lymphatic glands, as elsewhere, the formation of tubercle is favoured, not only by activity of the functions of the part, but also by active congestion; and, as a consequence of this, when a child who is the subject of tuberculosis has local disease of the skin or mucous membrane of the mouth or throat, of a nature to cause enlargement of the lymphatic glands to which the lymphatics from the inflamed part lead, that child is liable to have tubercle form in the glands which, in a healthy child under the conditions specified, would merely have serum and lymph exuded into them. So that whenever the lymphatic glands are greatly enlarged, even though it be acutely, and the primary mischief being cured, the lymphatic glands still continue unchanged in size, we may feel very sure, after some time has elapsed, that the glands have tuberculized.

Again, whenever a lymphatic gland has been enlarged for some time, and then spontaneously inflames, the skin over it becoming red and adherent, we may be confident that the cause of the inflammation is the presence of tubercle in the gland.

Wherever the characters I have mentioned are present, there can be no doubt about the nature of the disease; but now and then cases are met with in which the diagnosis is impossible. In these cases the amount of tubercle is very small, so that the gland is scarcely larger than in health; then the gland will be smooth on its surface, movable, indolent, hard—in fact, resemble a gland the seat of albuminoid infiltration, or a gland that was once in a state of active congestion, and the seat of exudation of lymph from distant local irritation.

In a doubtful case you attach much importance to the hereditary predisposition of the patient, and to the general characters of tuberculosis which may be present. The swellings in the neck of the girl who was here at my last lecture presented most unmistakable characters of being lymphatic glands the seat of tubercle; but had they been of more doubtful nature, the aspect of the girl, viz., that of strongly marked tuberculosis, would have given immense importance to the few characters of local deposit which might have been present.

Let me, before concluding this subject, recall to your minds the most common seats of primary inflammation leading to enlargement of superficial glands:—Active congestion, etc., of the glands under the rami of the jaw and symphysis menti is the consequence of inflammation of the true skin of the chin, lips, gums, and mucous membrane of the gums and mouth generally; early lancing the gums would save many a strumous child from sub-ramal glandular abscesses. Active congestion, etc., of the glands in front of the ear is the consequence of palpebral abscess—so-called stye—or of infiltration of the cutis of forehead or anterior part of scalp; active congestion, etc., of the glands behind the angle of the jaw, to inflammation of the tonsils or parts in their vicinity; active congestion, etc., of the glands directly under the ear, to disease of the ear; active congestion, etc., of the glands down the neck anterior to the stomach, to disease of the pharynx and larynx and front of the scalp; active congestion, etc., of the glands posterior to the sterno-cleido mastoideus, to disease of the

occipital region of the scalp. With reference to the glands of the groin, I need only remind you that they are not uncommonly in a state of active congestion in the child in consequence of inflammation of the prepuce and glans penis in the male, and of the orifice of the vagina in the female.

There are some great facts I desire by all this to impress on the mind of the youngest of my hearers, viz.:—

1. That primary inflammation of the lymphatic glands is a very rare disease, even in scrofulous children.

2. That secondary inflammation of the superficial lymphatic glands is a very common disease.

3. That a superficial lymphatic gland being in a state of active congestion, by seeking out and treating the primary lesion, we can in all but every case prevent the occurrence of suppuration of the gland.

4. That when a superficial lymphatic gland inflames and suppurates without there being inflammation of the tissue from which the lymphatics to the gland lead, in almost all, if not in all cases, the gland so inflaming is the seat of the deposit of tubercle.

5. That the lymphatic glands of scrofulous children, and glands which contain tubercle inflame and suppurate from an amount of irritation which would merely lead to moderate active congestion of the glands in a child of healthy constitution.

Let us now consider the symptoms which indicate that the internal lymphatic glands are the seat of tubercle.

There are only two sets of internal glands which need occupy us, viz., the bronchial and the mesenteric. The symptoms which indicate that these glands are the seat of tubercle may be grouped under three heads:—

1*st*. The general symptoms which indicate that the patient is the subject of tuberculosis. The symptoms are those I described to you in my first lecture.

2*d*. The symptoms which result from the direct interference with the special functions of the glands affected, consequent on the damage of their texture resulting from the presence of the tubercle in them, or partly from that and partly from the damage inflicted on the glands by the active congestion, effusion of serosity, and exudation of lymph, which preceded and accompany the formation of the tubercle in them.

Now, as the lymphatic glands in the bronchial and mesenteric groups are numerous, and as, although when one gland of the set is the seat of tubercle, many others are commonly the seat of the same product, yet we find that many of each set so commonly escape, that enough remain undamaged to perform the necessary functions of these glands, and that the symptoms derivable from this source, in the present state of our knowledge, are, for the purpose of diagnosis, altogether insignificant.

3*d*. The local signs and the local symptoms connected directly with the presence of local lesion.

It is not many years since every child whose abdomen was larger than natural, or was supposed to be larger than natural, was commonly said to be the subject of mesenteric disease. A large abdomen at once called to mind disease of the mesenteric glands, and disease of the mesenteric glands signified tubercular deposit in the mesenteric glands. But, so far from tubercular disease of the mesenteric glands being the ordinary cause of a large abdomen in the child, it is very rarely the cause of it. It will be well for my younger hearers to recall to their minds the fact, that children under three years of age rarely have large deposits of tubercle in their mesenteric glands, while they very often have an exceedingly large abdomen.

In reference to the mesenteric glands, the only positive evidence that they are the seat of a deposit of tubercle is the detection by the hand of the large glands. When the mesenteric glands are the seat of a large deposit of tubercle they form a hard, nodular tumour about the umbilicus, which may be perceptible to touch. Sometimes the tumour is fixed, unable to be moved from side to side or from above downwards; sometimes a part of it, some nodules, are movable; sometimes the whole can be moved a little.

To what other conditions can such a tumour be due?

1. Fecal accumulations.

These are to be distinguished from tubercular mesenteric glands.

(*a*). By their seat. They usually occupy the transverse and descending colon.

(*b*). By their shape. They are usually long, their long axis being in the direction of the long axis of the bowel.

(*c*). By their odour. Retained feces always, I believe, obtain a peculiar odour,

and are accompanied by the frequent expulsion of flatus having the same stale stench.

(*d*). By their colour and consistence. The feces that are passed have a peculiar appearance. They are pale, somewhat lumpy, and brittle, with a granular fracture

But a knowledge of these points only guides to the idea that the tumour is formed of retained feces. The test of the correctness of the idea is the effect of enemata Aperient, after aperient by the mouth may be given without removing the mass, when a single enema shall produce such an effect as to leave no doubt on the mind.

Suppose you desire to use an enema for the purpose of diagnosis in such a case. Strip the child, lay it on the bed, and examine the abdomen, carefully noting the size and position of the tumour or tumours. Then administer yourself, or see well administered, a large enema of soap and water with four ounces of olive oil and a tablespoonful of oil of turpentine. Let the oil and turpentine be mixed with eight ounces of soap water and thrown by a good syringe —not a bladder and pipe—into the bowels, and then as much soap and water be thrown up as the child will bear, the object being thoroughly to distend the bowel, stimulate it to contract, and excite peristaltic action far above the point to which your injection reaches.

When an injection is thrown into the bowel a griping pain is soon produced The child must be quieted. The pain subsides, and then a large quantity—a pint or more—may be injected into the bowel of a child of four years old. Then follows a sense of distension, and you feel that the abdomen is distended. Now the child must be restrained for a few minutes from expelling the injection, the orifice of the rectum being compressed pretty firmly by a cloth. If the enema has been well given, the child will soon, however, have to be placed on the pan.

The contents of the pan, and especially the altered size, or loss of the tumour, renders the diagnosis certain. Remember, although not directly bearing on our especial subject, that feces having once accumulated in quantity sufficient to produce a tumour in the abdomen of a child, are, unless great care be paid to the case, sure to accumulate again; so that if you direct an enema to be given, and do not see the child for some time after, you may find the tumour little changed.

2. Tubercle occasionally forms in quantity in the great omentum, and a tumour so constituted may easily be mistaken for a mass of tubercular mesenteric glands; as a rule it is less nodular, its edge is sharper, and it lies more superficially. Sometimes the diagnosis between the two is impossible, and the diagnosis is never of practical importance; a trial of skill, an interesting medical puzzle, and that is all.

As to other tumours that may be confounded with tubercular mesenteric glands, I am not practically acquainted with them. A case of cancer of the kidney was once mistaken for mesenteric disease; such could not have happened in any case of renal disease I have ever seen in a child or adult, and there is a case of disease of the pancreas on record in a child which *might* have been confounded with mesenteric disease, but was not. But tumour is not always perceptible. The tubercle in the glands may be small in quantity, or the glands affected widely separated, and so no tumour be there; or the state of the intestines may prevent the mass present being detected by touch. However, without there being a nodular mass in the umbilical region, we may sometimes feel by careful manipulation the tubercular glands, the parietes of the abdomen being thin and flaccid The nodular *mass* is, as a rule, most easily and distinctly felt by direct compression from before backwards of the anterior abdominal wall; the *single* glands by grasping the abdominal wall between the fingers and thumb, or between the fingers of the two hands, and compressing it laterally; in this way I have repeatedly felt glands not larger than a small nut floating or moving with the movements of the mesentery.

As to the less constant signs and symptoms of tubercular mesenteric glands—the abdomen may be of normal size; it may be, and very often is, retracted; now and then it is much distended. The direct cause of the distension is the accumulation of flatus in the intestines, due either to the generation of excess of flatus, or to the want of power to expel that generated.

Now, either the excessive formation or great accumulation may be, and frequently is, due to that condition of the mucous membrane of the intestine, and especially of its glandular structures, which is the cause of the active congestion of the glands, that determines the deposit of the tubercle in the

mesenteric glands. So that you will have gathered from what I have been telling you, that a large abdomen is by no means a necessary concomitant of mesenteric disease, and that when a large abdomen does accompany mesenteric disease, it is due not directly to the mesenteric disease, but commonly to the state of intestine which induces the mesenteric disease.

The nodular tumour from mesenteric disease is only to be detected by depressing the parietes, and when the nodular tumour is large, the abdomen is often small. There is another symptom frequently observed when tubercles are present in the mesenteric glands, and depending, like the large abdomen, on the determining cause of the deposit of tubercle; that symptom is diarrhœa. The diarrhœa, like the large abdomen, depends on the state of the mucous membrane of the intestines, loose stool and flatus going together. An uneasy sensation, or pain and tenderness of the abdomen, are both common concomitants of the disease of the abdominal lymphatic glands. These symptoms are due, usually at any rate, if not always, to inflammation of the serous membrane over the glands—now and then to the state of the small intestines. It is certainly very rare for the glands to be so large as to compress the vena cava and induce œdema of the lower extremities.

A little serosity is not uncommonly present in the peritoneal cavity when the mesenteric glands are filled with tubercle; it is the consequence of the state which causes the tenderness, viz: the inflammation of the serous membrane covering the glands. We find after death in such cases increased vascularity of the serous membrane at the parts indicated.

When ascites is present, it is due either to compression of the vena portæ, by tubercular glands in the portal fissure, or to peritonitis.

Emaciation is a very common, but by no means a constant result of tubercular disease of the mesenteric glands. When the local disease is very extensive, it is generally present; but then you are to bear in mind that extensive tubercular disease of these glands is never present without tubercles forming in other parts. It is difficult to tell the parts played in producing the emaciation by the various organs damaged. Still, I am disposed to think from what I have seen, that when the great majority of the mesenteric glands are damaged from tubercular or albuminoid infiltration, that emaciation, and even extreme emaciation, is the necessary consequence.

Conjoined with tuberculization of the mesenteric glands we so often find tuberculization of the peritoneum, and so many of the symptoms of the latter have been attributed to the former, that now, it seems to me, is the best place for its consideration.

In acute general tuberculization the peritoneum often partakes of the process, and we find it studded more or less thickly with gray granulations remarkable for their small size and their transparency. No local symptoms indicate their existence. The child suffers from the symptoms which indicate general tuberculization, but we cannot tell in any special case whether the peritoneum is or is not thus affected. Chronic tuberculization of the peritoneum is generally accompanied by inflammation of the peritoneum; and tuberculization of the peritoneum, when accompanied by symptoms, is accompanied by the symptoms of chronic peritonitis.

The abdomen is distended and blown, and at the same time the abdominal muscles are tense, so that the abdomen is large and resistant. As the distension is due to the presence of air in the intestines, the abdomen is resonant. As the air in the intestines is partly the result of accumulation, and that accumulation is due to inflammation of the peritoneum, pain (colicky in character) and tenderness are present.

Emaciation, derangement of the digestive functions, constipation, and diarrhœa, now one, now the other, are additional symptoms. Adhesions take place as the disease progresses between the coils of intestines, and then a solid, massy sensation is conveyed to the hand on manipulating the abdomen; and as in these cases there is often here and there between the coils of intestines a little fluid, there is often more or less fluctuation.

There are, in many cases, a peculiar expression of face, a worn, anxious look, and a care in movement which are quite peculiar. Occasionally sudden shaking of the abdomen causes more pain than actual pressure. The consequence is that the child in moving briskly, and especially on descending stairs, etc, puts its hands on to its abdomen to stay its vibrations and to afford it some support.

The spleen is frequently at the same time as the peritoneum the seat of tubercles, and can be felt extending a little below the false ribs. The spleen enlarged from the presence of tubercles in its substance never attains the large size of the spleen the seat of albuminoid infiltration, its edge is less sharp, and adhesions generally unite its peritoneal covering to the parietal peritoneum, and in consequence it is less movable than the albuminoid spleen.

The liver may be enlarged from fatty degeneration, as it is called, of its cells; and we often find scattered through it small gray tubercles, sometimes so transparent as to be easily overlooked.

The Bronchial Glands.—The general symptoms here also are, as in the other cases, those of tuberculosis.

If the tubercles be few they are unaccompanied by local signs. It is only when the glands, one or more, are stuffed with tubercle that we can ascertain their presence. The bronchial glands are situated chiefly about the bifurcation of the trachea, *i. e.*, under the first bone of the sternum and a little below it. In the young, healthy child there is, from the presence of the remains of the thymus, a little want of resonance at this spot; when the bronchial glands are distended by tubercle the dullness is considerable and passes below the first bone of the sternum and is much greater than natural, laterally. It is only rarely that appreciable dulness is to be detected between the scapulæ, and after death we see why this should be so, for in the vast majority of cases the enlarged bronchial glands are covered posteriorly by a considerable thickness of lung.

As the bronchial glands accompany the bronchial tubes, it is usual to have on one or the other side some masses of glands extend under the anterior margin of the lungs, and therefore it is common to have a cracked pot sound on percussing the cartilages of the upper three ribs on one or both sides. The air-containing lung is compressed during percussion between the solid mass of glands behind and the in-driven parietes in front; in this way the air is forced out suddenly from the healthy piece of lung, and the chinking sound is produced.

In the healthy child the breath sounds have the bronchial character over the first bone of the sternum. When the bronchial glands are stuffed with tubercle, the breathing is more tubular than in health, and preserves that character almost to the base of the heart. It has sometimes the same character between the scapulæ. The large hard glands not unfrequently compress the descending vena cava and produce a permanent venous hum audible over the course of the vessel; they may also compress the pulmonary artery and produce a systolic murmur having its point of greatest intensity at the second left interspace.

The veins of the neck are often greatly distended, the distension being extreme during coughing. Slight œdema of the face and upper extremity is sometimes a consequence of this impediment to the return of blood from the superior vena cava; epistaxis, and even hemorrhage into the arachnoid, have resulted from the same cause. I have seen hydrothorax from compression of the vena azygos. I never saw dysphagia from compression of the œsophagus by tubercular glands in the child, but I have read of it. The bronchial tubes may be narrowed by the pressure of the glands, and impediment to the entrance of air into the lungs be the consequence; hence will follow still greater atrophy of the lung than is proper to the patient from the tuberculosis. Cough is excited, and from this follows emphysema of the least supported and least compressed parts of the lungs. The nerves are irritated, continuous spasm may be the result; whispering voice, cough in succession, as in hooping cough, and even permanent, long, noisy inspirations, such as occur in hooping cough and in laryngismus stridulus.

Time does not permit me more than very briefly to refer to the termination of these affections, a subject scarcely within the scope of these lectures. In the superficial glands the gray tubercles, which are very common, either become obsolescent, or they pass into the stage of yellow tubercle, soften, and are evacuated by suppuration. Tubercles in this situation easily calcify.

When tubercles form in the mesenteric glands, death most commonly occurs while they are in the unsoftened yellow stage. Now and then the tubercles do not pass beyond the gray stage, the gray tubercles becoming obsolescent and the patient recovering. Not uncommonly, and that even when the quantity of tubercle in the mesenteric glands is large, it calcifies, and the

patient recovers. Sometimes after death, softened yellow tubercle is found in some of the glands, and crude yellow tubercle in others.

In the bronchial glands obsolescence and calcification are extremely common terminations of tubercle. In comparatively rare cases, softened tubercle is eliminated through an opening into a bronchial tube, and a cavity formed. Calcified tubercle may be eliminated through a communication between the gland and one of the air-passages, usually (as Carswell has figured) near to the bifurcation of the trachea.

Tubercular peritonitis seldom ends favourably. When this does occur, adhesions form between the coils of intestines and the parietal peritoneum; the gray granulations become obsolescent, the masses of tubercle calcify.—*Medical Times and Gazette*, Oct. 26, 1861.

HOSPITAL NOTES AND GLEANINGS.

Chorea.—A series of cases of chorea has been under treatment in Dr. Peacock's wards at St. Thomas's Hospital, which well illustrates the facility with which the disease yields to treatment in some cases and its obstinacy in others, and the advantages which in the latter class of cases result from a change of remedies from time to time.

The first case was that of a girl, 8 years of age, who had never before suffered from the disease, and in whom the symptoms were of two weeks' duration. She was directed to have aperients at intervals, the tepid shower-bath, and to take the sulphate of zinc and valerian—at first in two-grain doses, and subsequently in the dose of twenty grains three times daily. She was discharged, entirely cured, in two months.

The next case was that of a female, in which chorea appeared as usual from a violent mental shock; but the patient was 57 years of age, much beyond the period of life at which the disease ordinarily appears, and the affection had continued four months at the time of her admission. The treatment employed was mild aperients, the shower-bath, and the exhibition internally of the saccharated carbonate of iron—at first in ten, and subsequently in twenty-grain doses. After two weeks, no material amendment being manifested, she was directed to take the liq. potassæ arsenitis, in doses of ♏iv. three times daily; the dose was subsequently increased to ♏viij, and continued for six weeks. During this time there was some, but not marked, improvement, and the sulphate of zinc and valerian were then had recourse to, the former remedy being ultimately given in a dose of twenty grains three times daily. It then excited sickness, and after a continuance of six weeks was abandoned. Under the use of the zinc she greatly improved, and was discharged from the hospital, with, however, some irregular action still continuing in the face and head, which rather took the form of paralysis agitans.

The third case was that of a female, 13 years of age, who had had two previous attacks of chorea, and had suffered under her present seizure for one month before admission. She was directed to have aperients, and to take the saccharated carbonate of iron, in doses of ten to twenty-five grains, three times daily, and to have the tepid shower bath. After this treatment had been continued for two weeks with but little benefit, it was replaced by the zinc and valerian, and the dose of the sulphate of zinc was carried in seven weeks to the extent of twenty grains three times daily. The symptoms were materially relieved by this treatment, but not cured; and the liq. potassæ arsenitis was now given in doses of four minims three times daily. After taking this remedy for two weeks, the spasms entirely ceased, and the patient was discharged in another fortnight, during which she took the quinine and iron, quite well.—*Med. Times and Gaz.*, Nov. 23, 1861.

Thirty-eight Exostoses growing from the Extremities of a Girl.—In reading the notes of the following case, chiefly remarkable for the large number of bony tumours present on the extremities, the question naturally arises, to what source can their presence be attributed? Surgical writers speak of syphilis, scrofula, cancer, and gout as predisposing causes, and they are known oftentimes to be hereditary; sometimes several members of the same family are subject to them. So far as the girl's history goes, no clearly assignable cause can be made out, unless a rheumatic tendency through the father, who has been a martyr to rheumatism almost all his life, be considered as such. He had a bony tumour

removed on one occasion from one of his thighs.

As is the usual rule in these cases, the tumours are present on the long bones of the extremities; one only occurs on a flat bone—the scapula. They are not symmetrical, if we except the clavicle, yet they are so far uniform that as many as eighteen occur on the left, and twenty on the right extremity, giving a total of thirty eight, in a girl who has not attained to puberty. In the young, about the age of puberty is the period most favourable for the appearance of these tumours.

As regards treatment, bony growths are so commonly seen single that very little importance is attached to them; they are removed, and there is no return. This, however, could not be practised in such an example as that under notice. We think there can be no doubt that in their nature they partake of the spongy or cancellous character, being primarily enchondromatous.

F. H——, aged fourteen, applied to Mr. Barwell, on the 29th of July last, for swellings in different parts of her body. Her mother died nine years ago of consumption; the father has suffered all his life till lately from rheumatism, and about thirty years ago had a bony tumour removed from one of the thighs by Sir B. Brodie. She is the youngest child; there have been many born, but all have died except one sister, who is now about twenty, and has a small bronchocele F. H—— has not menstruated, is of lymphatic temperament, has always had good health, but now suffers from pain in the chest (gastrodynia), and has grown thin lately. She fell down when a few months old and hurt her arm. The surgeon called in seems to have said that she was so fat he could not tell whether a bone was broken; at all events, no fracture was detected The left forearm is now very much deformed, being bent inwards a little below its middle at an angle of 35°. The ulna appears to have been broken, and the fragments now override; the radius is bent in a rather abrupt curve over to the ulnar side. At the point of flexion the two bones are very widely separated.

On examining one or two of the swellings which the girl showed, they were found to be exostoses, and so numerous as to render an examination into their actual number and position necessary. The exostoses, thirty-eight in number, vary from the size of a half-pea (and very likely there are smaller ones not detectable) to that of a hen's egg; the smallest being on the fingers, the largest on the thigh. They all occur on bones of the extremities, not one being found on any part of the head or trunk. With one exception, they all have their seat on long bones—the exception is the scapula, and the bony enlargement in that spot is more like a thickening than an exostosis. The bones of the carpus and tarsus are quite free, even though these excrescences are plentifully cropping out from long bones in their immediate neighbourhood. Their arrangement is not symmetrical (except at the clavicle). There is a grotesque straining after symmetry, as at the thighs and in other parts; but it always fails. There is an evident partiality for the ends of the long diaphyses, their centres being less frequently affected, and the epiphyses very rarely.

The large number of these exostoses would decidedly denote some constitutional defect, some unhealthy diathesis, giving rise to such excessive bony growth; but neither the general appearance nor the symptoms present anything to confirm such an idea. Dr. Willshire examined the urine, and found in it nothing abnormal. The condition of the left arm gives some clue to the probable state of the osseous system in general. The radius being so much bent, shows that the bones were all probably abnormally soft at a not very distant period. She affirms that the arm is getting more crooked pretty rapidly, and therefore it would appear that this bone (probably the whole skeleton) is unusually soft; but what connection, if any, there may be between such state and the abnormal deposit of bony matter is not evident.—*Lancet*, Nov. 9, 1861.

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Painful Ulcer of the Rectum.—Sophy O——, aged 22, a healthy woman, applied at Guy's Hospital for a painful defecation accompanied with the passage of blood per rectum, of seven months' duration. She had sought advice, but no inspection of the part had been made.

On examination, an ulcer was detected in the posterior portion of the bowel, about half an inch in length, its longest diameter being placed vertically. Mr. Bryant, having passed the speculum, at once divided the superficial fibres of the sphincter with a knife, and relief was immediately given to

the patient, which proved permanent.—*Lancet*, Nov. 9, 1861.

Vicarious Hæmatemesis.—Some months back there were two cases in St. Bartholomew's Hospital, illustrative of perverted menstruation, both patients having had hæmatemesis at their usual monthly period in place of the catamenia.

The first case was that of a domestic servant, aged 24, of a pallid and somewhat anæmic appearance, who first menstruated at the age of 22. The catamenia appeared naturally for four times only in succession, and then ceased. This was succeeded by vomiting of blood every month in place of the menstrual fluid, but it varied in quantity, being never very large. The sickness in the stomach during the periods was extreme. She was ordered a mixture of vinum ferri and infusion of quassia, and pills of aloes and myrrh. Under this she improved very much in her general health. In a fortnight an eczematous eruption broke out about the face, which was attributed to the iron, and it was therefore discontinued. After some months' stay in the hospital, the hæmatemesis was arrested, but the catamenia did not appear; the cure therefore would hardly be permanent. This patient had a bursal tumour situated over the left scapula.

The second case occurred in a seamstress aged 28, in whom the catamenia had ceased for three months, and were regularly replaced by the vicarious flow of blood from the stomach. The bowels were constipated, headache was constant, and there was a pain in the abdomen. Her health was restored by treatment, and the catamenia reappeared before she left the hospital.—*Lancet*, Nov. 9, 1861.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Gross's System of Surgery.—This work, we are glad to perceive, has achieved the most flattering success. In our last Number we mentioned that a translation in Dutch was in preparation; and we can now state that the first edition of the work has been exhausted, and that a second will be published in a few days.

Case of Hermaphroditism.—Dr. J. W. Bragg, Assistant Surgeon, U. S. N., reports (*Boston Med. and Surg Journ.*, Nov. 28, 1861), the following case of this, met with in examining recruits for U. S. Naval service.

"He is a native of Ireland, and now 22 years of age. He has followed the sea for the last ten or twelve years. He is 5½ feet in height, with blue eyes, light hair, and light complexion. His usual weight is 150 pounds. His voice is of a decidedly feminine character. He has no beard, and no hair, except upon his head and a few short scattering appendages around his rudimentary penis. His hands, arms and shoulders have the form, plumpness, and in every way the appearance of a well-developed female. His breasts are full, round, soft, and beautiful, with well-developed nipple and areolæ, and identical with the breast of a virgin. The curves of the thigh, so characteristic of the female, are well shown upon this truly wonderful form. His legs, feet and body all conform to that of a female. Upon a superficial observation of the genital organs, they were found to resemble those of a female, with a greatly enlarged clitoris. But upon more minute examination, we find the apparent external labia to consist of two folds of a diminutive scrotum, placed in apposition to each other. The raphe is distinctly marked. The testicles, which are about the size of a large pea, are situated high up in the region of the external rings, a little in front, and beneath them. The penis is about one inch and a half in length, with corresponding circumference. The prepuce adheres to the glans penis. He represents that he is capable of coition with females, and that his feelings sometimes prompt him to indulge. His penis is capable of erection, and, he states, of emission of semen."

India-Rubber Stoppers for Bottles.—A writer in the *Boston Med. and Surg. Journ.* (Dec. 12, 1861) calls the attention of the profession to this recent invention, which will be a great convenience. "By means," he says, "of this admirable substitute for the common cork, bottles containing the strongest acids may be carried without danger in the pocket, and the great inconvenience and expense of ground-glass stoppers obviated. The vulcanized rubber of which they are made will resist, I believe,

all chemical agents. I have kept a bottle of concentrated sulphuric ether, closed with one of these stoppers, inverted for several days, without the slightest visible effect being produced on the gum.

For alcohol, solutions of nitrate of silver, tincture of iodine, the various mineral acids, and, indeed, for all liquids, the India-rubber stopper is more than a convenience, it is a positive luxury, as, I am confident, all will agree who have tried it. To practitioners in the country, who carry their own medicines with them, it will be of inestimable advantage. In the sick room, also, the new stopper is of very great utility. By means of it, bottles containing effervescing fluids, such as champagne, citrate of magnesia, soda-water, etc., can be tightly corked again after having been opened, so that small quantities of their contents may be used at a time without the slightest detriment to the remainder. Lastly, and not least, these corks are sold at a price which will place them within the reach of all.

[These stoppers will doubtless prove very useful for many purposes, but the writer of the above article claims for them a resistance to the action of chemical agents which it is doubtful if they possess. It is said that *pure* ether, nitric ether, naphtha, most if not all the volatile oils, kerosoline and turpentine act upon these stoppers and destroy them after a short time]

Suspension of Medical Journals.—The existing state of the country has borne particularly hard upon medical journals, and compelled a large number of them to suspend publication. In addition to those the discontinuance of which has been already noticed, we must now add the Berkshire Medical Journal; the Cleveland Medical Gazette; the Maryland and Virginia Medical Journal; the Baltimore Journal of Medicine; Columbus Review of Medicine and Surgery; and Charleston Medical Journal and Review. The St. Louis Medical Journal, it is stated, will also be temporarily suspended.

We part with our contemporaries with regret, and wish their editors health and happiness, and that the pursuits in which they may engage will yield them a better reward than they have received for their editorial labours.

FOREIGN INTELLIGENCE.

Death from Chloroform.—Two cases of this are recorded in late Nos. of the *Medical Times and Gazette*, one in the No. for Nov. 9th, and the other in the No. for Nov. 16th.

The first is related by Mr. W. E. C. Nourse, who says:—

I was requested by Mr. Field to administer chloroform during an operation for the removal of internal piles by the ecraseur. The patient was a large, stout, very muscular man, aged 50; the abdomen was prominent, and the countenance that of a man accustomed to drink, but not indicating any abnormal condition of the heart or other organ. There was no arcus senilis, and the pulse and respiration seemed natural. Two measured drachms of chloroform poured on a hollow sponge were first inhaled, in the usual gradual manner. The stage of excitement was strongly marked, with much muscular action and vociferation. After several minutes, the chloroform being exhausted, forty or fifty minims more were poured on the sponge, and inhaled at intervals. While the vociferation and struggling yet continued, some stertor appeared, and the sponge was at once withdrawn. In another minute full stertor came on; the face, without any pallor, showed a dusky, livid hue, the pulse ceased, and the respiration was becoming visibly slower. Mr. Field had not begun the operation. We instantly commenced artificial respiration, and slapped the face and chest with a wet towel; but only a few more inspirations or gasps were obtained. We continued the same means, took blood from the jugular vein, which was turgid, rubbed the limbs, and applied electro magnetism, assisted by two other medical men, but after the lapse of an hour, no sign of life being elicited, and the body becoming cold, further efforts were evidently useless.

On a *post-mortem* examination, the heart was found loaded with fat, its muscular substance thin and weak, and the walls of the right auricle and ventricle in a state of fatty degeneration. The right cavities were gorged with fluid blood. The valves and great vessels were healthy, and no other organ appeared to be in any abnormal state. Death had clearly occurred from failure of the heart's action, induced much more rapidly than could have happened under natural circumstances by chloroform, owing

to the weakened and encumbered condition of the heart.

The second case is as follows:—

On Saturday, Mr. G. S. Brent, deputy coroner for West Middlesex, held an inquest at the Bank of England Tavern, Cambridge place, Paddington, on the body of Edwin Hambly, aged eight years, a native of St. Mabyn, Cornwall, whose death occurred while under the influence of chloroform on Wednesday, the 6th inst. Mr. Edwards, chloroformist to St. Mary's Hospital, deposed that he had held that position for the last eight years. The deceased was admitted to the Institution on the 25th ultimo to undergo a plastic operation to remove a great deformity, occasioned by a burn in the chin, which had the effect of drawing it down to an unusual degree, and turning the under lip inside out. On the day appointed for the operation, witness administered the chloroform gently. It took ten minutes to get the boy under its influence, and then the operation was commenced by Mr. Lane, the senior Surgeon. Just before the conclusion the deceased fainted, and, with a view to restore him, witness promptly commenced artificial respiration, which he kept up for half an-hour. Failing in his efforts, he was put in a warm bath, and galvanism was applied for an hour and a-half, but without success. Witness believed that the poor boy died instantly he fainted, from paralysis of the heart. This was the first and only fatal chloroform case he ever had since the opening of St. Mary's Hospital, now over ten years, during which time chloroform had been successfully administered to upwards of 4000 persons. In a *post-mortem* examination they found all the organs healthy, and no trace of disease anywhere. Death was solely from paralysis of the heart from the effects of chloroform. In reply to the deputy coroner and jury, witness said he considered chloroform invaluable, and had applied it with the utmost success, even in cases of operations where the heart had been very much diseased, and where there was hardly a lung sound enough for the patient to breathe through. He never had a case die before from chloroform. The strangest part of this affair was that, when death took place, the boy was apparently recovering from the effects of the chloroform. Other medical gentlemen who were examined fully corroborated the evidence of Mr. Edwards, and testified to his great experience, and his remarkable caution in the administration of chloroform. The jury returned a verdict that the deceased instantly died during the performance of a surgical operation upon him from the effects of a failure of the action of his heart, occasioned by chloroform accidentally and by misfortune.—*Med. Times and Gaz.* Nov. 16, 1861.

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Extensive Intussusception in an Infant.—Dr Penquer, of Brest, relates the case of a child aged four months, who died after manifesting symptoms of intussusception, accompanied by discharge of blood *per anum*. On *post-mortem* examination, the cæcum and ascending and transverse colon were found to be entirely invaginated into the descending colon; the cæcum and its appendix lying near the rectum. Dr. Penquer says that invagination of the large intestine is common among children in Brittany, where the practice prevails of bandaging them tightly in linen, and leaving them alone for some hours.—*Brit. Med. Journ.*, Oct. 19, from *L'Union Méd.*, Aug. 22, 1861.

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Supply of Atmospheric Air to Public Buildings.—The Commission appointed to report on the question of warming and ventilating the Palais de Justice, Paris, comes to the conclusion that the following quantities of atmospheric air should be supplied per hour for each individual placed in the respective localities: Hospitals, day and night, 80 cubic mètres; during the period of dressing the surgical patients, 120 mètres; and during an epidemic, 150 mètres. Laboratories, 60 mètres. Barracks, during the day, 30 mètres, during the night, 60, and during epidemics, 120 mètres. Prisons, 60 metres. Amphitheatres, theatres, and assembly-rooms, 60 mètres. Schools, 30 mètres.—*Med. Times and Gaz.*, Nov. 30, from *Presse Belge.*

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The Manœuvres of the Sanitary Department of the Swiss Army.—A correspondent of the *Med. Times and Gaz.*, writing from Berne under date of Oct. 2d, 1861, gives the following highly interesting account of the organization of the Swiss Army:—

"As far as I am aware, the organization of the Sanitary Department of the Swiss Army is totally unknown abroad, and as it possesses many interesting and instructive

peculiarities, I will to-day send you a short account of it; and, I believe, the best way to do this will be to report to you the doings of one of the last 'sanitary courses,' which are held every six months, and which I have personally witnessed.

"A number of medical men, sick attendants, and commissaries of ambulances were assembled in Zurich. The Staff-Surgeon first gave them instruction in the organization of foreign armies as well as of the Swiss forces, and the execution of the sanitary measures necessary for the efficiency of the service, the ambulances and hospitals, the general administration, the keeping of accounts, etc. They were then shown the whole material necessary for the sanitary arrangements, and had to practice its application, unpacking and re-packing. Especial attention was called to the transport of the sick and wounded by rail and other means of locomotion, regard being had to the experience made in the last wars. Manœuvres were then made under the command of the Chief Staff-Surgeon of the Swiss Army. A sham fight by the artillery and the infantry took place for forcing the passage of a river, and thirty soldiers were left wounded along the banks, ticketed with cards stating the kind and locality of the wounds. This was done in order to test the efficiency of those attendants whose special duty is the search for, and the transport of the wounded.

"At a certain distance from the line of battle, on both wings of the force, the Surgeons set up in order to dress the wounded; all necessaries, straw, water, etc., being provided in abundance. A certain number of attendants and their helpers then advanced to the field of battle, searched for the wounded, made a rough preliminary dressing, and then transported them on suitable carriages to the Surgeons' tents where the real dressing was done, as simply as possible. Dressings with triangular towels were used for the wounds of the upper extremities, of the head and the feet, and for a large proportion of the wounds of the thigh. For fractures, different forms of single and double splints were employed, and the several methods of applying the gypsum bandage were practised—gypsum being always at hand in the Swiss ambulances. Capsules which are moulded for inclosing the whole extremity, and are only open at the top, will also be shortly introduced. This is of great importance, as they are superior to any other contrivance for the transport of the wounded. For limiting the use of the tourniquet as much as possible, the attendants and their helpers are practised in digital compression of the principal arteries, the experience of the Russian and English armies during the war in the Crimea having fully shown that this is far preferable to the use of the tourniquet. In the Italian campaign of 1859, therefore, scarcely any tourniquets were used; and even when amputations were made, digital compression was exclusively employed.

"At a suitable place an ambulance was put up, and with the greatest rapidity a tent, which afforded a room for about twenty wounded persons, was struck, and a transport wagon mounted. The attendants then unpacked the material, prepared beds in the tent, and a field-kitchen, according to the French system, in its neighbourhood: in from fifteen to twenty minutes the flag waved from the tent as signal that all was ready for the reception of the wounded. The chief of the ambulance assigned their proper places to every Surgeon and attendant, etc. A wagon, drawn by a horse, was sent to fetch the wounded from the Surgeon's tents on the wings of the force; such wounded persons as were still able to walk, followed the wagon on foot. They were then taken to the operating tables; the wounds were closely examined, the necessary operations made, and durable dressings put on; everything being done '*tuto, cito et jucunde.*' The commissary of the ambulance meanwhile distributed the material and made the necessary entries, while the wagon continually brought fresh supplies of wounded.

"In the meantime another party had formed a suitable lazaret in a house and shed in a neighbouring village, to which, in order to prevent a crowding of the ambulances, the wounded were from time to time transported, and there properly cared for. These proceedings were continued until all the wounded had been brought in, after which, the ambulances were cleaned and repacked, and the tent raised.

"By these exercises the sanitary field service was practised in its whole extent, and the connection and the mutual action of all its parts clearly shown. In order to afford a better view of the whole and to avoid loss of time, the several stations for

rendering aid were situated much nearer to each other than would be the case in real warfare.

"I must not omit mentioning that we have no special sanitary troops, as is the case in some foreign armies, since the number of combatants would be thereby too much diminished; but the sick attendants form the nucleus of the sanitary troops, and if these do not prove sufficient, assistants are taken from the ranks. The attendants are therefore both soldiers and nurses, and these exercises by making them acquainted with all improvements introduced in the sanitary arrangements, render them more efficient than elsewhere. I have seen the sanitary service of the French armies during the whole of the Italian campaign of 1859; and in comparing with it the Swiss, I cannot speak too highly of the zeal and efficiency of the latter.

"Two such sanitary courses as just described are held every year—one for our Eastern, the other for the Western forces, and in each two or three sham dressings and nursings of wounded take place, and always under varied circumstances. By their means the commissaries' attendants and their assistants are made practically acquainted with the details of the service and their respective duties, and such young medical men who have only seen civil practice have the opportunity of learning the difference between this and military surgery. The circumstance that every Medical man in Switzerland is, at the same time, civil and military Physician, has perhaps some drawbacks, but I think the preceding lines have shown that it is also not devoid of advantages."

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Injurious Effects experienced by Workmen who Manufacture Children's India-rubber Balloons.—These beautiful coloured toys, now so abundantly produced, are, according to a paper read by M. Delpech to the Academy of Medicine, the source of much mischief to the workpeople employed in their fabrication. For the caoutchouc to attain this excessive dilatation by insufflation it is requisite that it should be dipped in a mixture of sulphuret of carbon and chloride of sulphur; and as this last substance only constitutes a hundredth of the mixture, it is to the sulphuret of carbon M. Delpech attributes the deleterious effects in question. These he had already pointed out, in a former communication to the Academy, as occurring in other manufactories in which the vapours of sulphuret of carbon are inhaled in considerable quantities in close workshops. The accidents are of a remarkable character, being dependent upon affections of the digestive and nervous system and manifesting themselves in the form of anorexia, vomiting and colics, of hebetude, loss of memory, nervous irritability, sensual disturbances, cephalalgia, impotence, and paralysis. On more closely observing these cases, M. Delpech finds that these conditions of collapse are preceded by a stage of excitement, inordinate appetite preceding the anorexia, excessive sexual desire the anaphrodisia, hyperæsthesia and pain the paralysis, etc. M. Delpech points out the analogy of the action of this substance and that of anæsthetics as ether and chloroform.—*Med. Times and Gaz.*, Nov. 16, from *L'Union Méd.*, No. 133.

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The Cinchonæ in India.—In our October number, we alluded to the mission of Mr. Clements Markham in introducing into this country the quinine-yielding plants of South America. We regret to learn that the plants brought by Mr. Markham have all perished. They suffered so much from exposure to cold, in his journey across the Cordilleras, that very few of them survived the voyage to England, and from thence overland to the western coast. Cuttings were made by Mr. McIvor from some of the most promising looking plants, and it was hoped that these might be propagated; but by the latest accounts, we understand that all have perished. A second supply of young plants of the gray and yellow bark, have lately been received, as well as seeds. The plants, it is understood, are in a very unsatisfactory condition; but there is every hope that the supply of seeds will enable Mr. Markham to establish the practicability of growing the cinchonæ in this country. Mr. Markham has recently stated, in a letter to the *Madras Times*, that a further supply of plants and seeds is expected from the Ecuador, and that arrangements have been made with duly qualified agents, to continue sending supplies of both, so long as may be necessary. Attempts will at the same time be made to naturalize the cinchonæ in the hills of Jamaica and Ceylon. It is well known that the Dutch have successfully in-

troduced these valuable plants into Java. They have now upwards of half a million of young trees planted out, chiefly of the Calisaya species; and it has been satisfactorily proved that a higher percentage of alkaloid is obtainable from the trees grown in Java, than from those which have flourished in their native forests. So jealous, however, are the authorities of their success in the experiment, that Dr. Macpherson, on a late visit to the island, was prohibited from bringing away with him a single plant or seed. Dr. Macpherson's description of the mode of culture practised in Java, we shall probably have the pleasure of publishing in our next number.—*Madras Quarterly Journal of Medical Sciences.*

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Remarkable Illustrations of Instinct.—The surprising faculty of vultures in discovering carrion has been a subject of much speculation as to whether it be dependent on their power of sight or of scent. It is not, however, more mysterious than the unerring certainty and rapidity with which some of the minor animals, and more especially insects, in warm climates congregate around the offal on which they feed. Circumstanced as they are, they must be guided towards their object mainly, if not exclusively, by the sense of smell; but that which excites astonishment is the small degree of odour which seems to suffice for the purpose, the subtlety and rapidity with which it traverses and impregnates the air, and the keen and quick perception with which it is taken up by the organs of those creatures. The instance of the scavenger beetles has been already alluded to; the promptitude with which they discern the existence of matter suited to their purposes, and the speed with which they hurry to it from all directions; often from distances as extraordinary, proportionably, as those traversed by the eye of the vulture. In the instance of the dying elephant referred to above, life was barely extinct when the flies, of which not one was visible but a moment before, arrived in clouds, and blackened the body by their multitude; scarcely an instant was allowed to elapse for the commencement of decomposition; no odour of putrefaction could be discerned by us who stood close by; yet some peculiar smell of mortality, simultaneously with parting breath, must have summoned them to the feast. Ants exhibit an instinct equally surprising. I have sometimes covered up a particle of refined sugar with paper on the centre of a polished table, and counted the number of minutes which would elapse before it was fastened on by the small black ants of Ceylon, and a line formed to lower it safely to the floor. Here was a substance which, to our apprehension at least, is altogether inodorous, and yet the quick sense of smell must have been the only conductor of the ants. It has been observed of those fishes which travel overland on the evaporation of the ponds in which they live that they invariably march in the direction of the nearest water; and even when captured, and placed on the floor of a room, their efforts to escape are always made towards the same point. Is the sense of smell sufficient to account for this display of instinct in them? or is it aided by special organs in the case of the others?—*Sir J. Emerson Tennent's Ceylon.*

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Guy's Hospital.—Mr. France has been appointed consulting Ophthalmic Surgeon; Mr. Paland, late Assistant Surgeon, has been appointed full Surgeon and Surgeon to the Ophthalmic department; and Mr. Bader has been appointed Assistant Ophthalmic Surgeon.

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Electricity of the Torpedo.—M. Moreau has reported to the French Academy of Sciences, that he has succeeded in collecting the electricity of the torpedo by means of an electroscope and gold condensor.—*Brit. Med. Journ.*, Oct. 12, 1861.

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Ophthalmia in the Prussian Army.—An official return just published in Prussia, shows that not fewer than 4,789 soldiers are now suffering from ophthalmia, and that 2,609 of them are in the corps of Pomerania.—*Ibid.*

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Obituary Record.—Died, at Whitechurch, near Reading, on the 13th of November, 1861, Sir John Forbes, M. D, formerly editor of the *British and Foreign Medical Review*, and one of the leading professional men of Great Britain.

—— In Bordeaux, on the 25th of August, 1861, aged 78 years, Dr. de Gratelouf, a learned physician and naturalist.